Subject: Re: The Most Powerful Subwoofer in the World
Posted by Wayne Parham on Sat, 15 Oct 2005 09:21:37 GMT
View Forum Message <> Reply to Message

would be nice to invite others too, and make it a testing session. Kind of fun that way.I had already tested the heat exchanger on the woofers in free air, so I had a pretty good idea of what they would do. But while I had performed a destructive test on a woofer having no heat exchanger, I still hadn't seen a failure yet on a device with a heat exchanger. So there were two failure modes I wanted to see, to know the limits of the device. One was failure after extended periods, what I'm calling heat soak failure. The other was an instantaneous failure, one caused by extreme power levels provided to a relatively cool voice coil, one that hadn't been heat soaked.We had intended to run a 15 minute heat soak period at the Prosound Shootout, which isn't really enough to truly saturate the drivers, but would provide enough heating to see what changes in performance resulted. But we realized after the first battery of tests that we may not have time to do them. So we omited the heat soak test.Realizing that I could not heat soak, I decided to push

at 73.5v input (roughly 2000 watts), but failed at 80.5 volts input, approximately 2400 watts. From

2000 watts peak.Mechanical limits were never reached, with some extreme power sweeps starting at 10Hz. The driver did not sound strained at any power level, and it never reached a point of mechanical interference. The thermal limits were greatly increased using the heat exchanger, and distortion is reduced because of the push-pull configuration and horn loading. Distortion is incredibly low at safe power levels, and even at extreme over-limit power levels